

$i \geq 1, j \geq 1$

Fig. 1

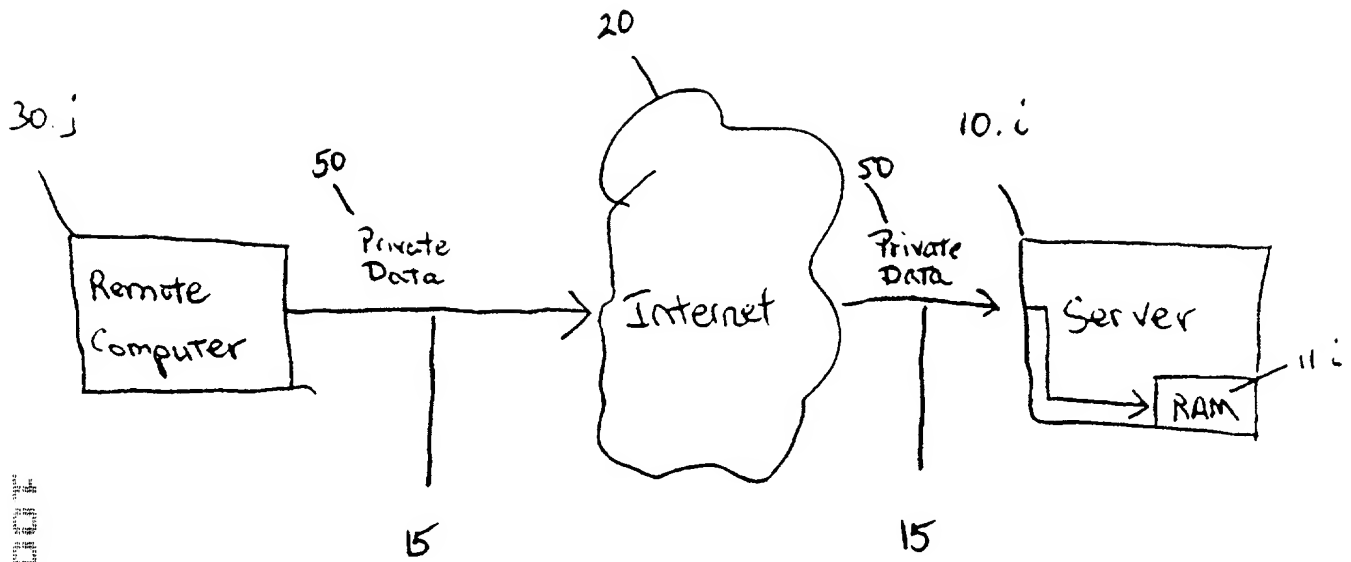


Fig. 2a

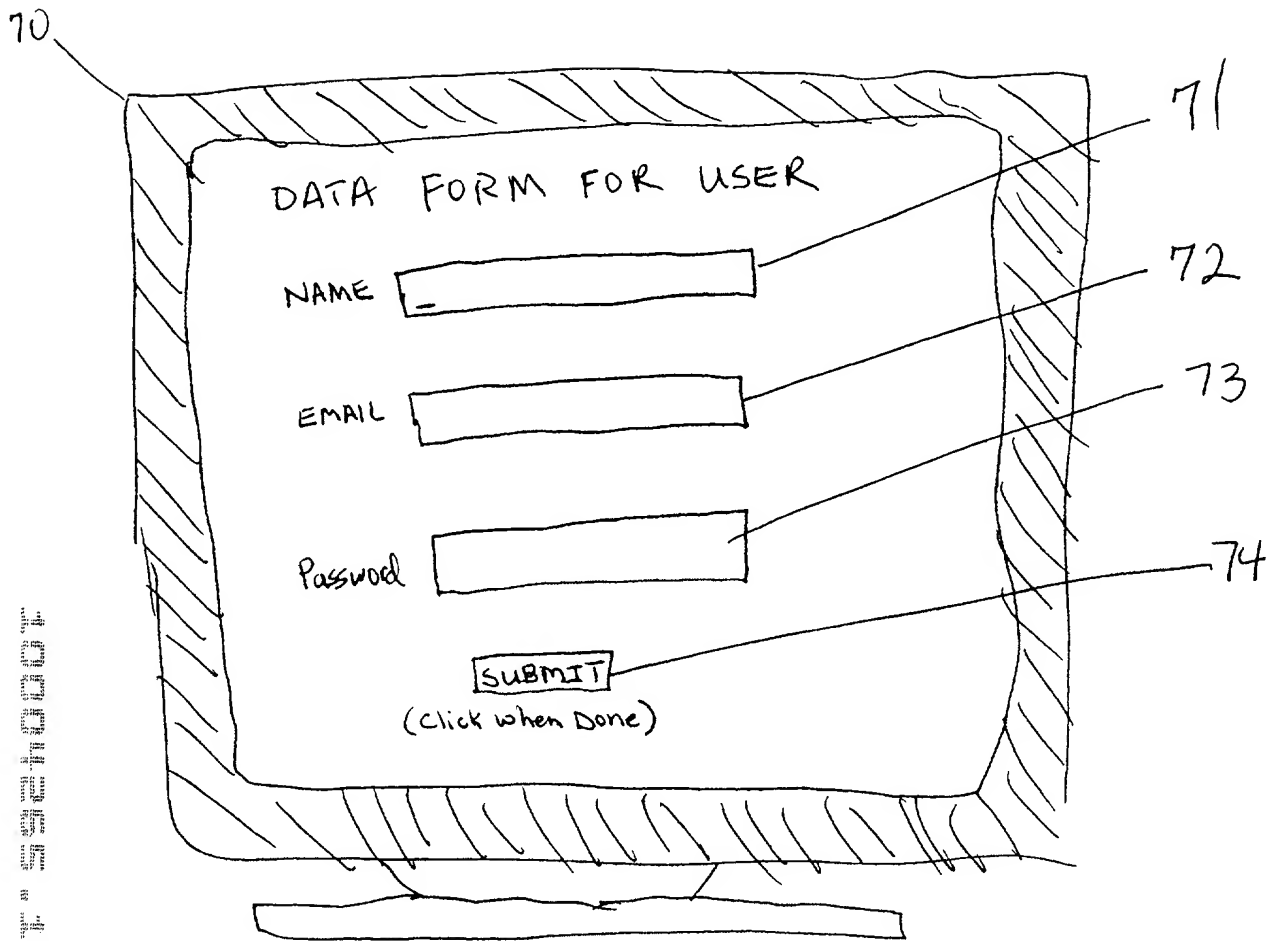


FIG. 2b

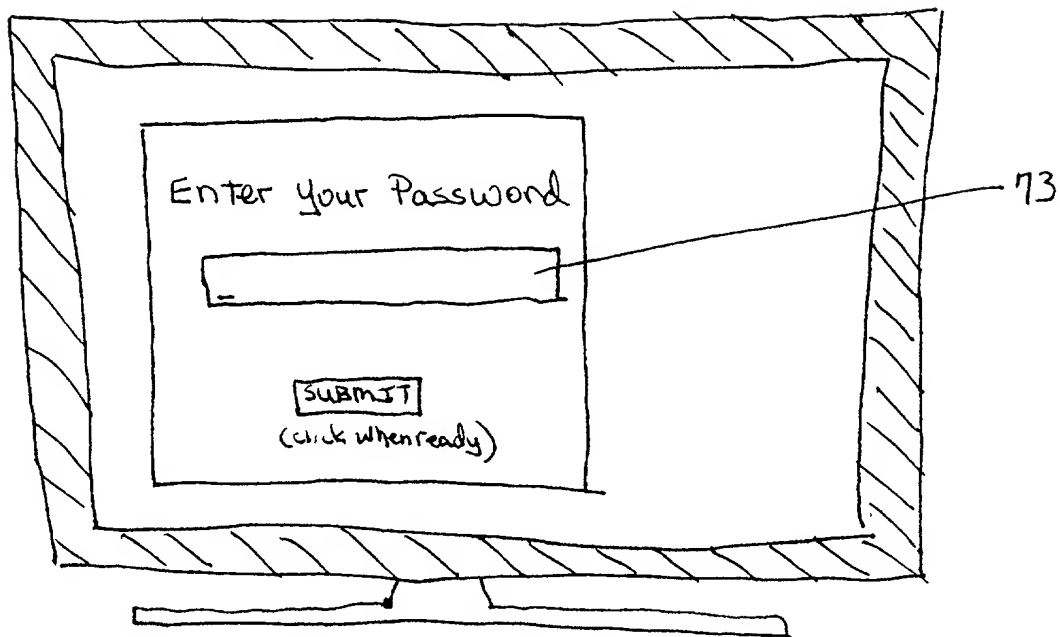
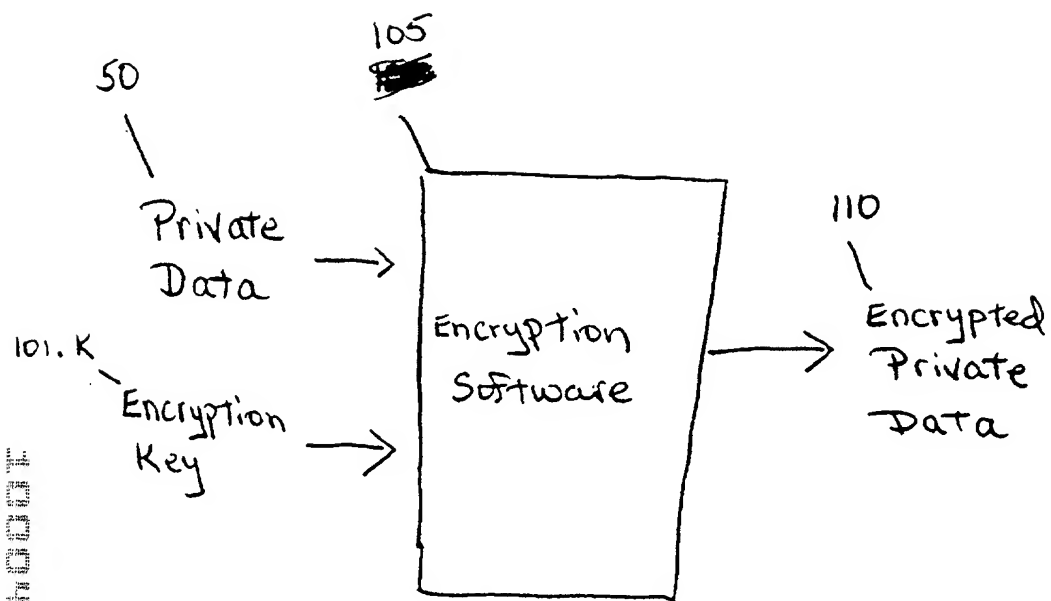


FIG. 2c



$K \geq 1$

Fig. 3

User Key 100

|   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|
| G | o | o | s | e |  | G | o | s | s | a | g | e | 1 | 2 | 3 |
|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|

v-set 300

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| F | o | o | t | B | a | l | l |
|---|---|---|---|---|---|---|---|

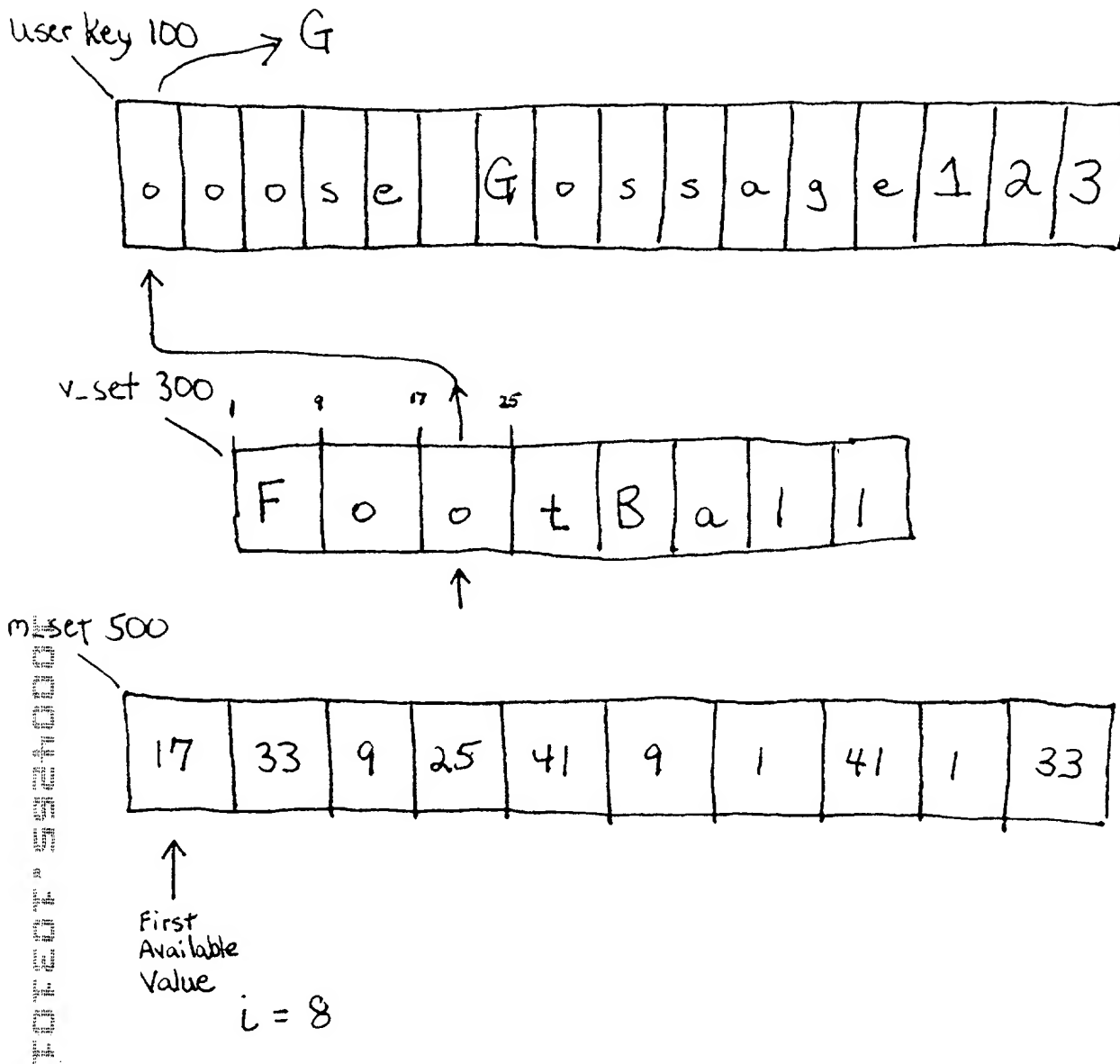
m-set 500

|    |    |   |    |    |   |   |    |   |    |
|----|----|---|----|----|---|---|----|---|----|
| 17 | 33 | 9 | 25 | 41 | 9 | 1 | 41 | 1 | 33 |
|----|----|---|----|----|---|---|----|---|----|

$$i = 8$$

$K = n * i + 1$ , where  $n = 0$  initially  
and  $n = n + 1$  after replacement

FIG. 4a (Pre-Replacement)

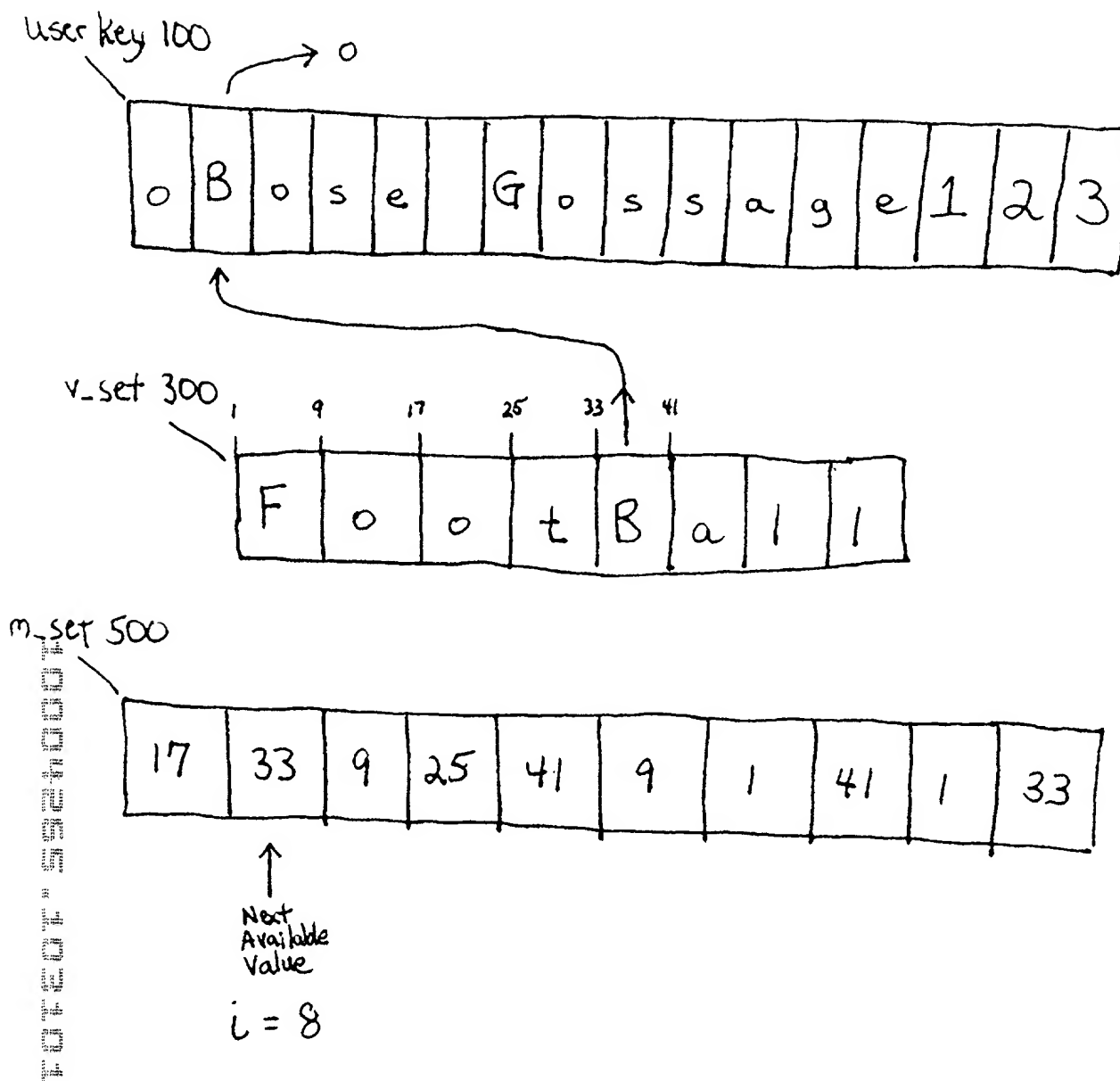


$$K = n * i + 1, \text{ where } n = 0 \text{ initially}$$

and  $n = n + 1$  after replacement

$$\underline{K = 1}$$

FIG. 4b (Replacement,  $n = 0$ )

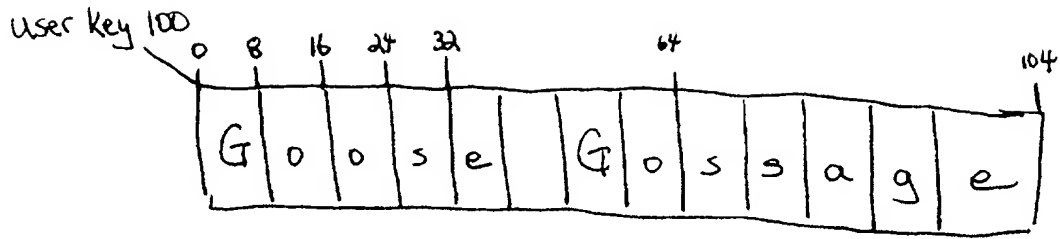


$$K = n * i + 1, \text{ where } n = 0 \text{ initially} \\ \text{and } n = n + 1 \text{ after replacement}$$

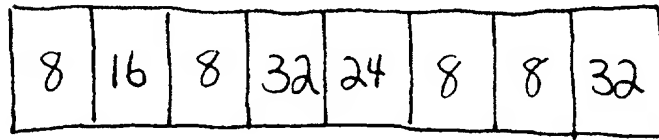
$K = 9$

FIG. 4c (Replacement,  $n = 1$ )

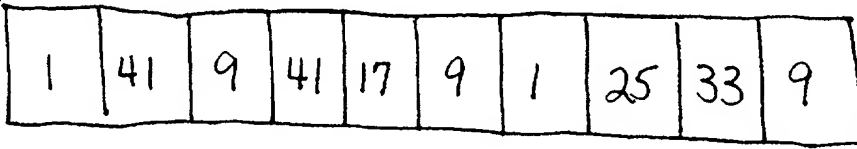




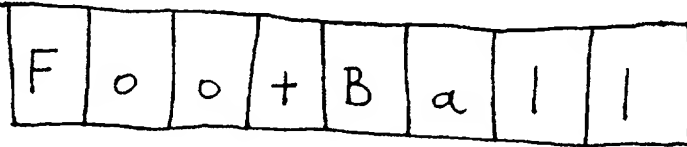
i-set 200



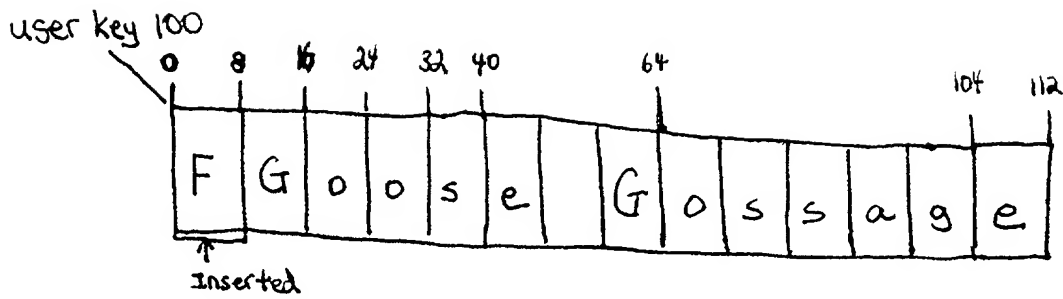
K-set 400



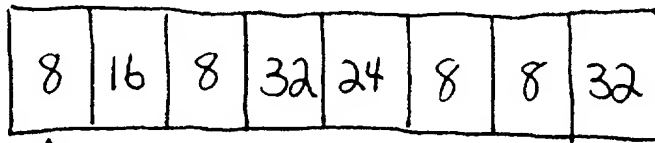
v-set 300



5a  
FIG. ~~5a~~ (Pre-Insertion)

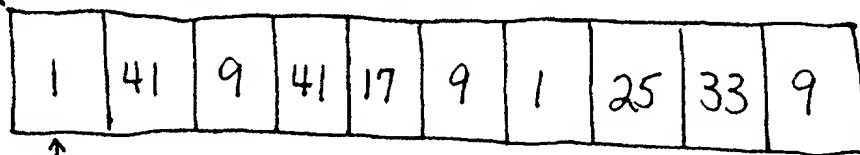


i-set 200



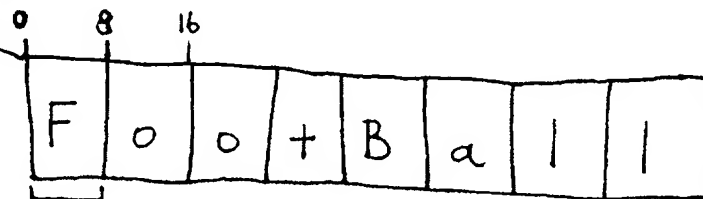
↑  
First Available {L=8}

K-set 400



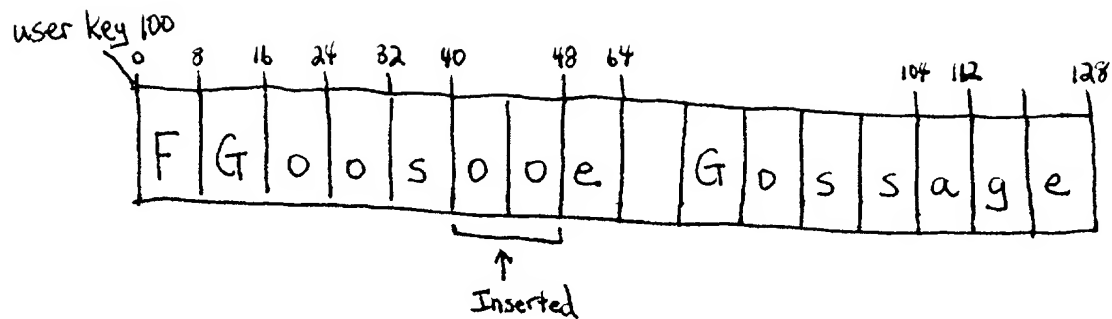
↑  
First Available

v-set 300

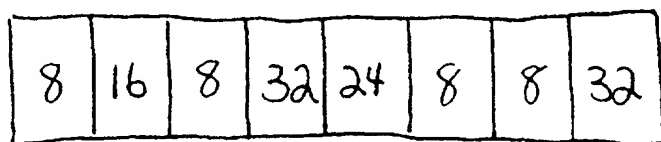


↑  
First Available  
i bits

FIG. 5b (First Insertion)

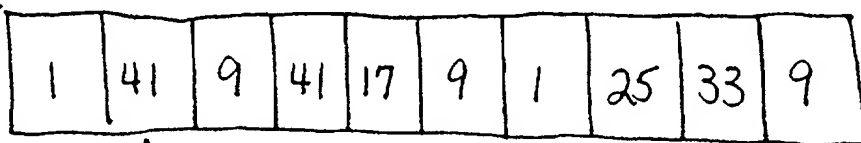


i-set 200



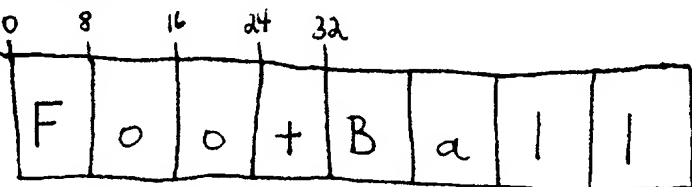
↑  
Next Available {i = 16}

K-set 400



↑  
Next Available

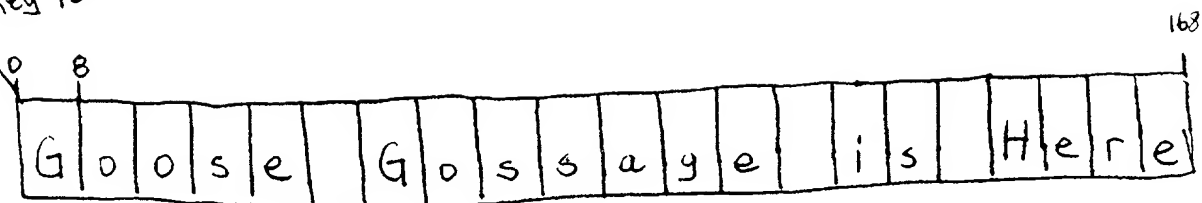
v-set 300



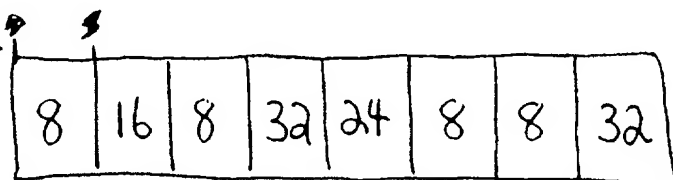
↑  
Next Available  
i bits

FIG. 5c (Second Insertion)

User Key 100



i\_set 200



K\_set 400

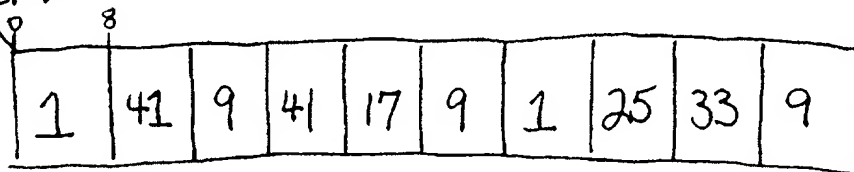


FIG. 6a (Pre-Deletion)

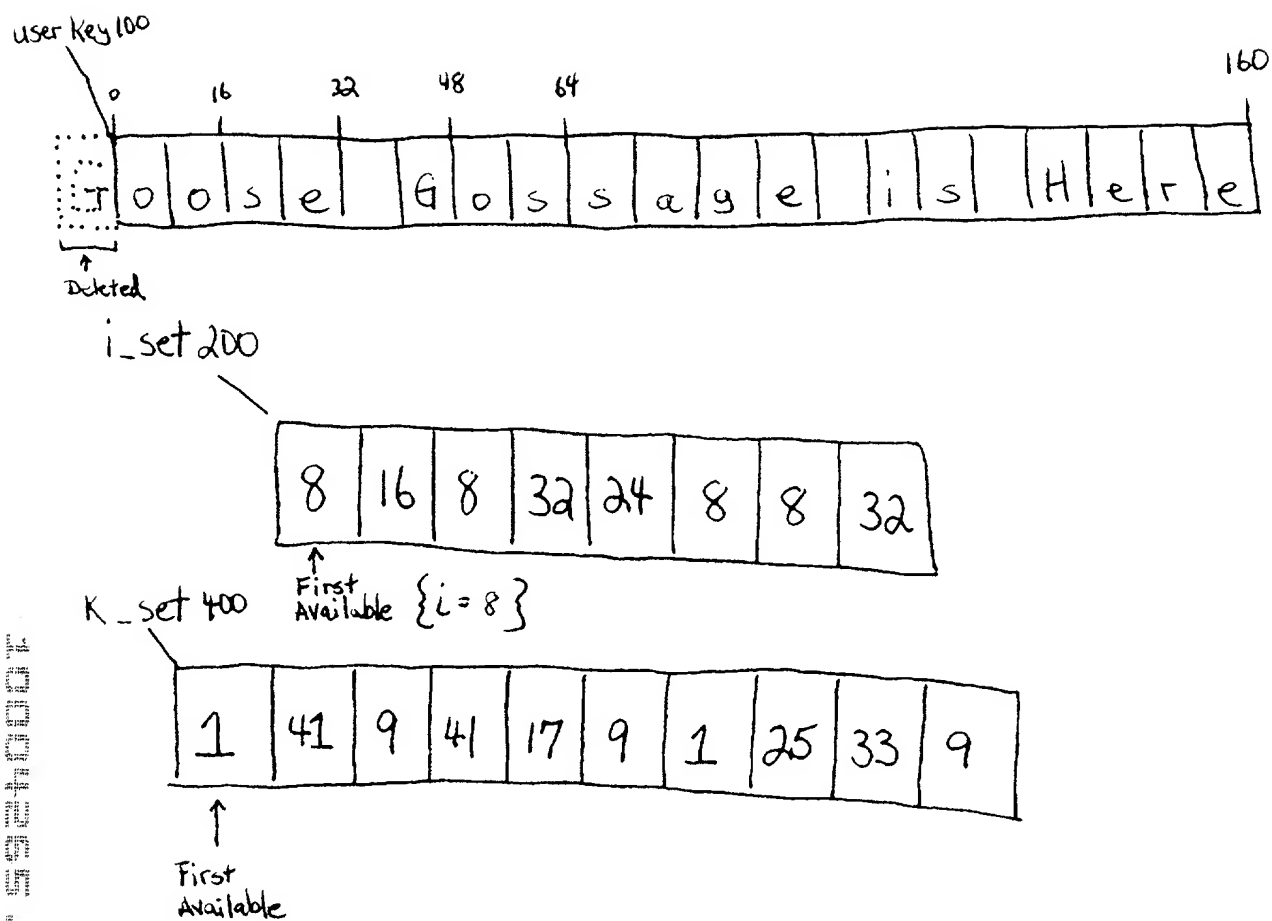


FIG. 6b (First Deletion)

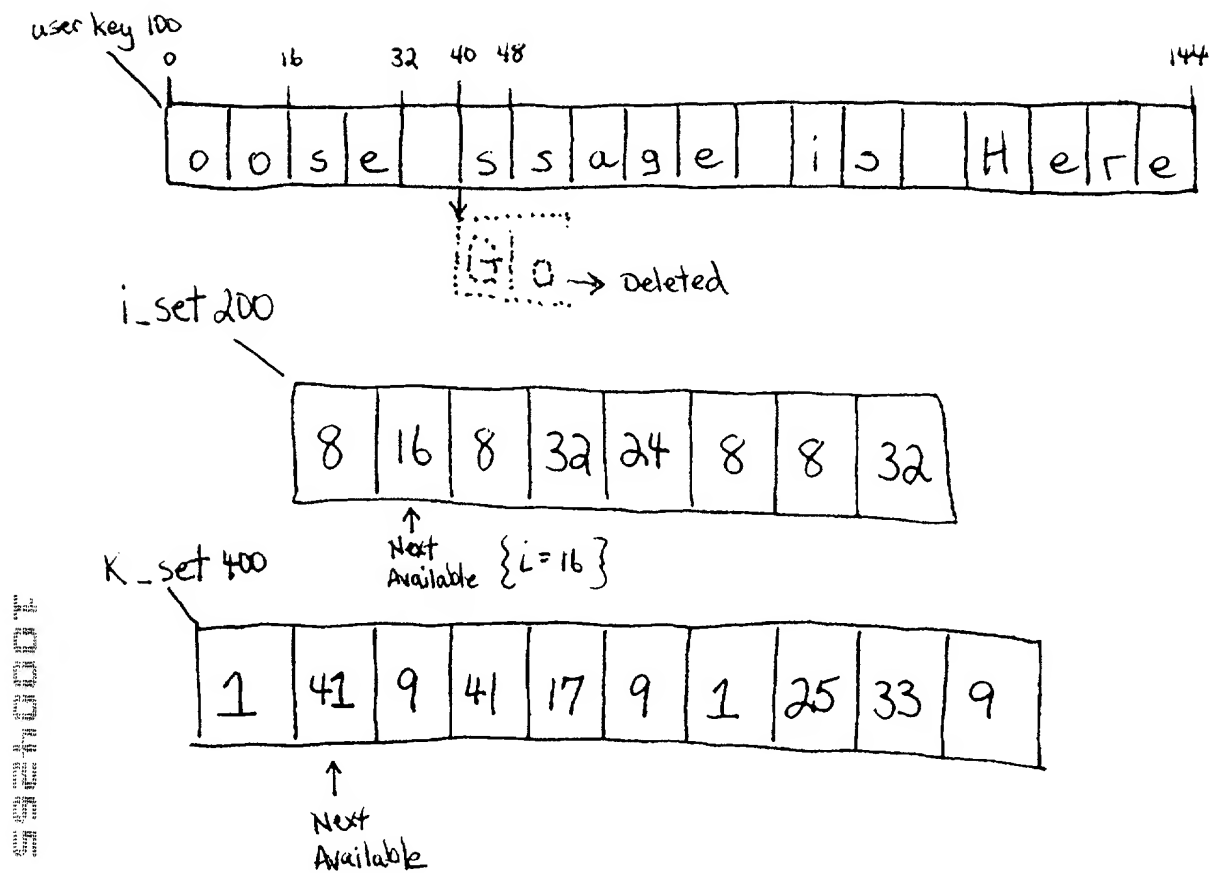
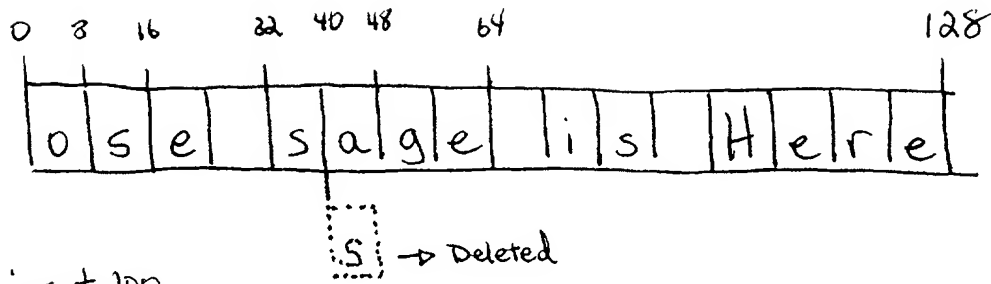
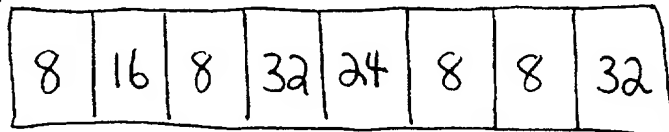


FIG. 6c (second Deletion)

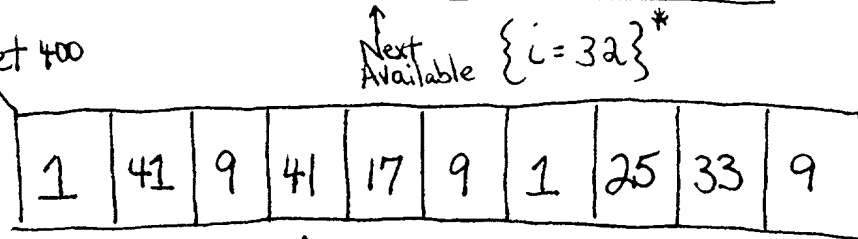




i\_set 200



K\_set 400



↑  
Next Available

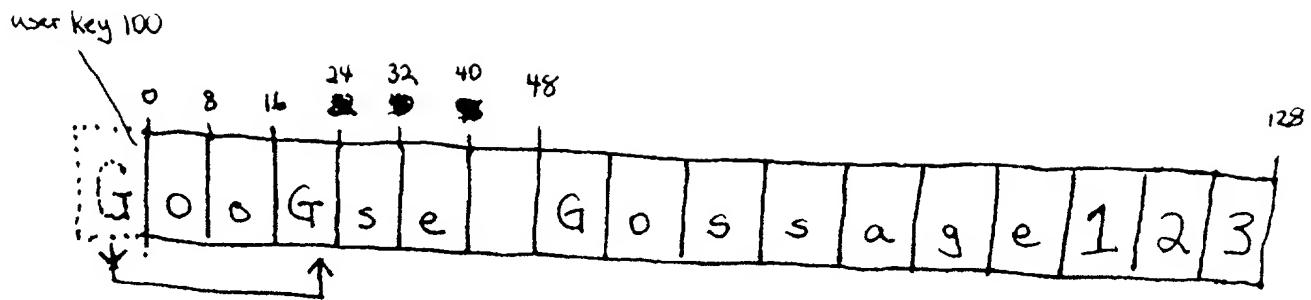
$$* \left\{ \begin{array}{l} \text{if } (u-i) < e \\ \text{then } i = i - (e - [u-i]) \end{array} \right\}$$

$$i = 32 - (128 - (136 - 32)) = 8$$

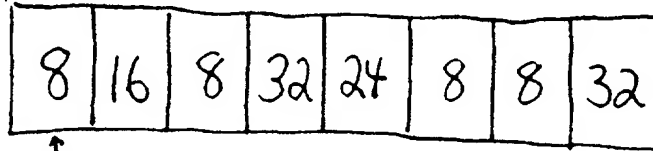
FIG. 6e (Fourth Deletion)





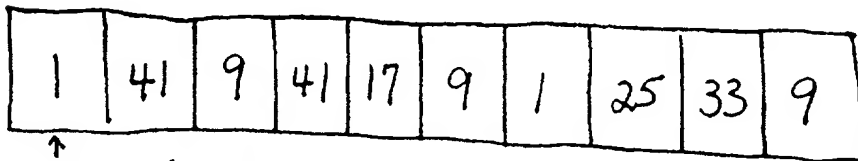


i-set 200



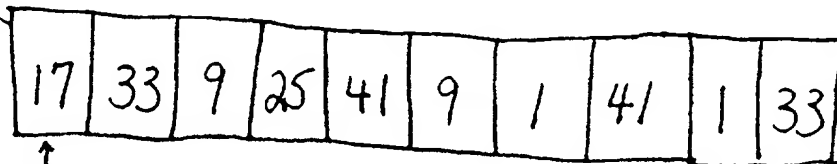
First Available  $\{i=8\}$

K-set 400



First Available  $\{K=1\}$

m-set 500



First Available

FIG. 7b (First Rearrangement)

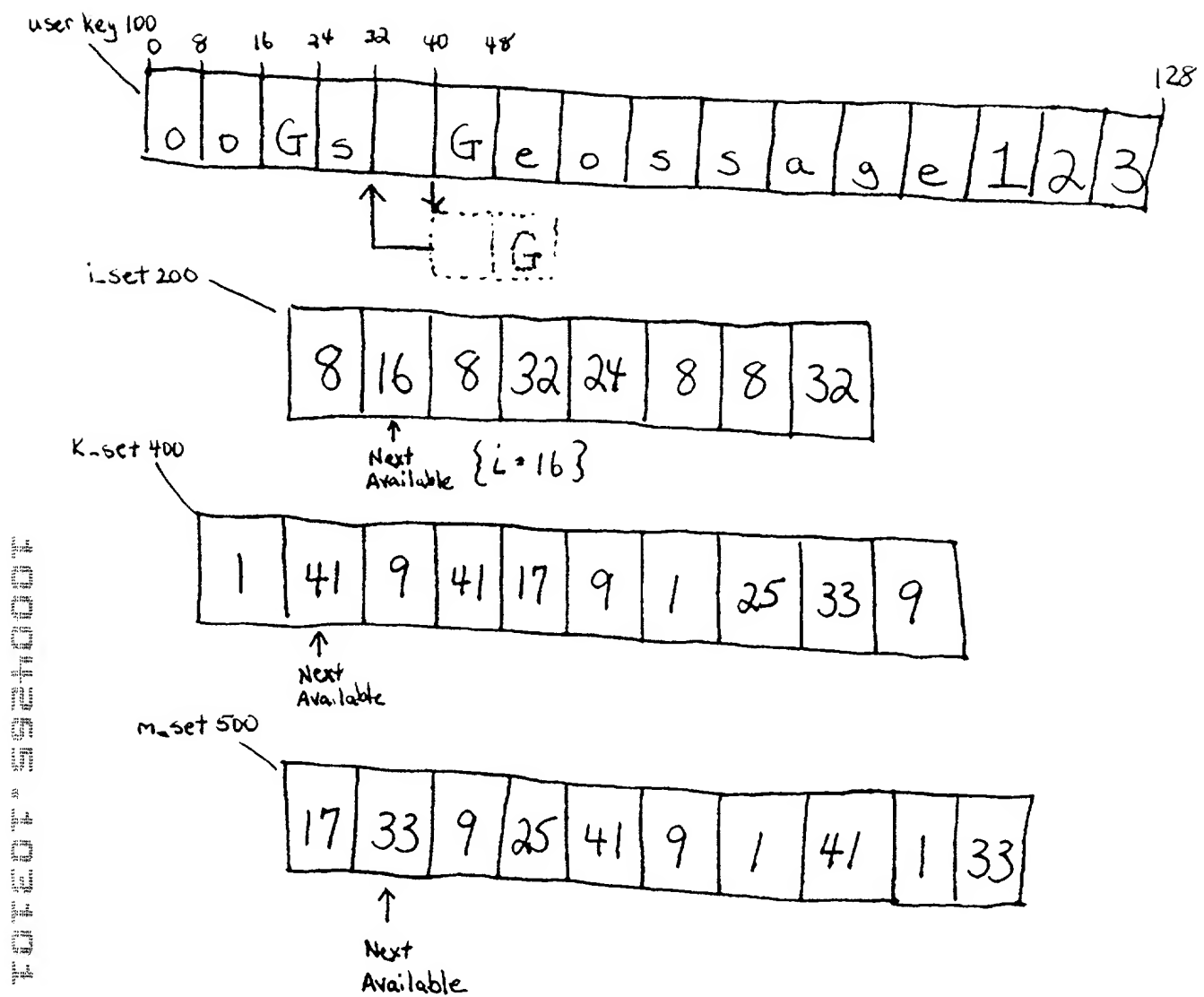


FIG. 7c (Second Rearrangement)

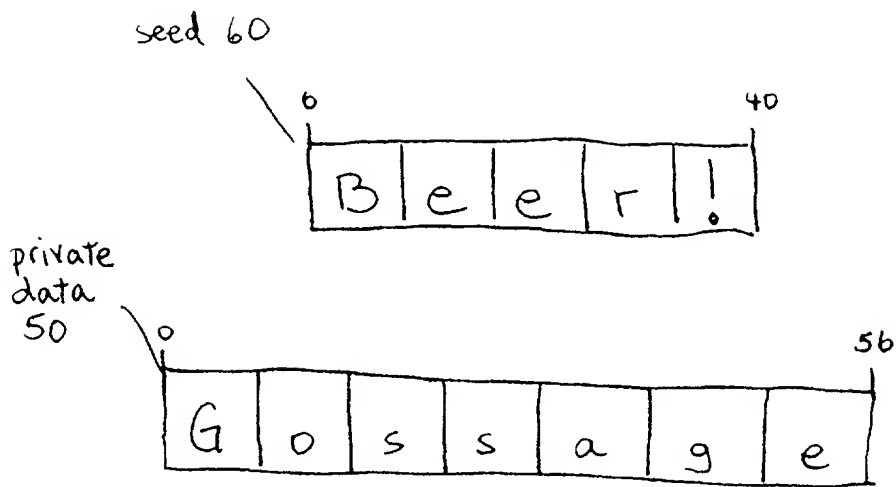


FIG. 8a (Pre-Seeded)

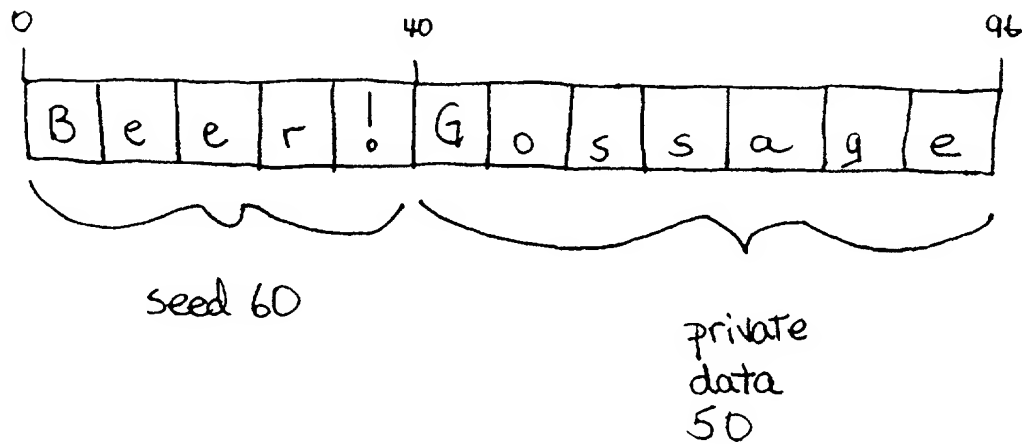


FIG. 8b (Seeded)

Cookie 300

301

302

110

|       |   |
|-------|---|
| Name  | "ywi"   |
| Value | " $\frac{3}{4}M\{7\}C\div C$ " <del>alter</del> |
|       |   |
|       |   |
|       |   |
|       |   |

FIG. 9

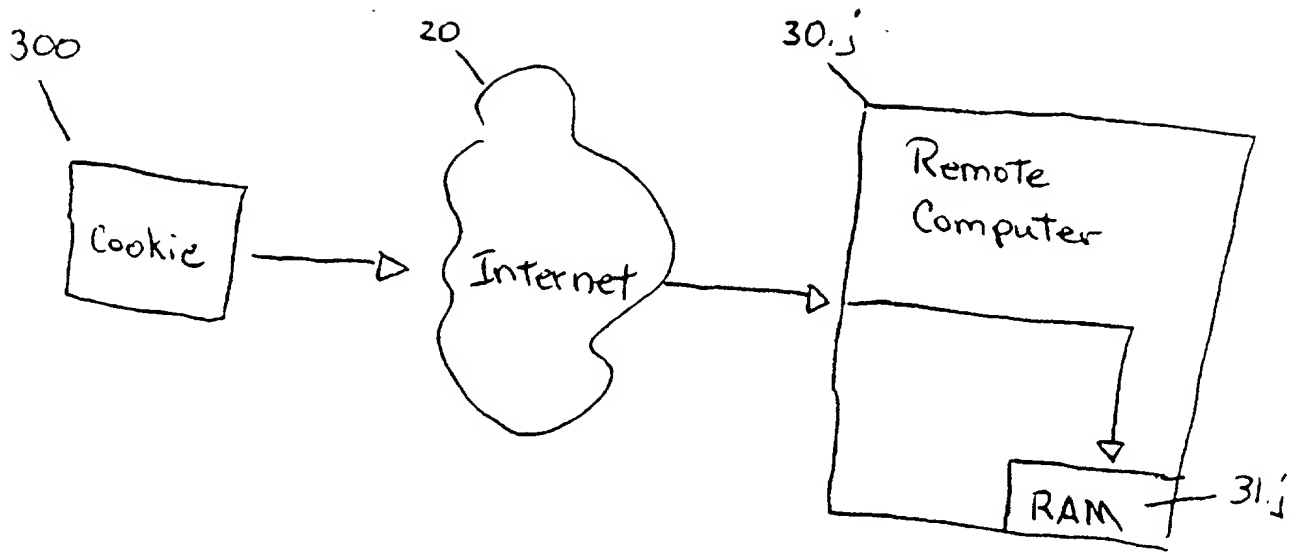


Fig. 10a

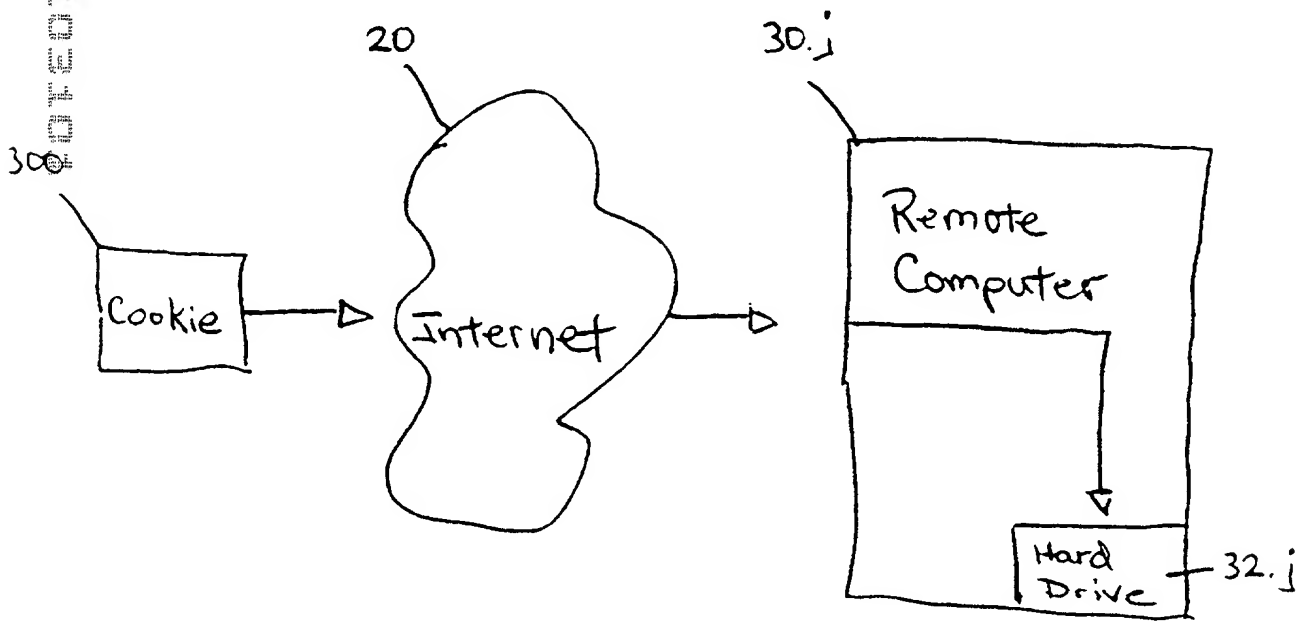


Fig. 10b

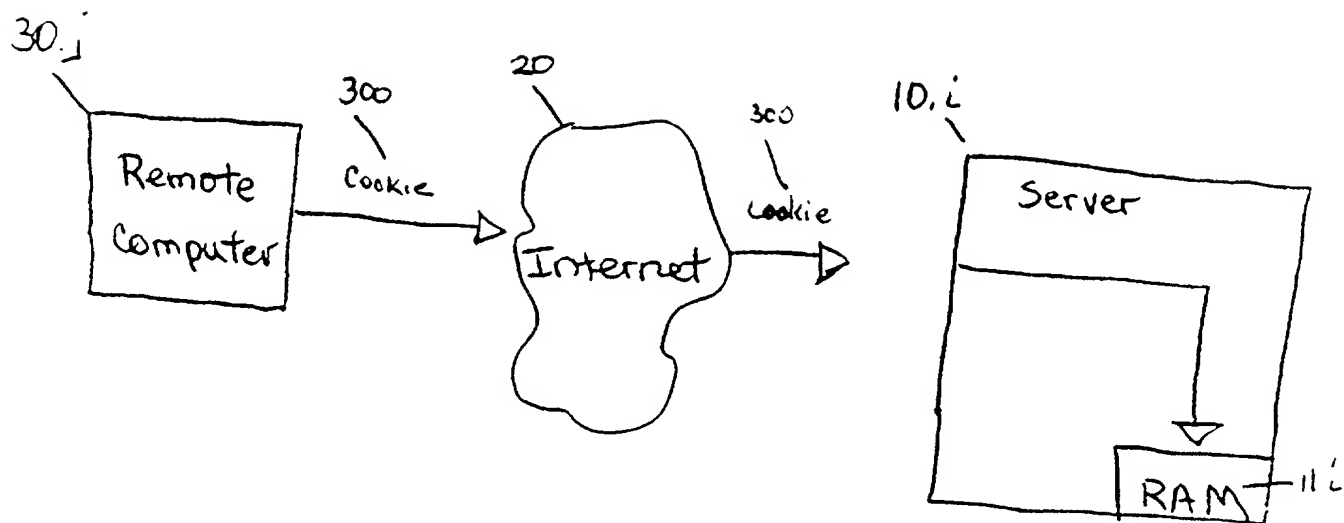
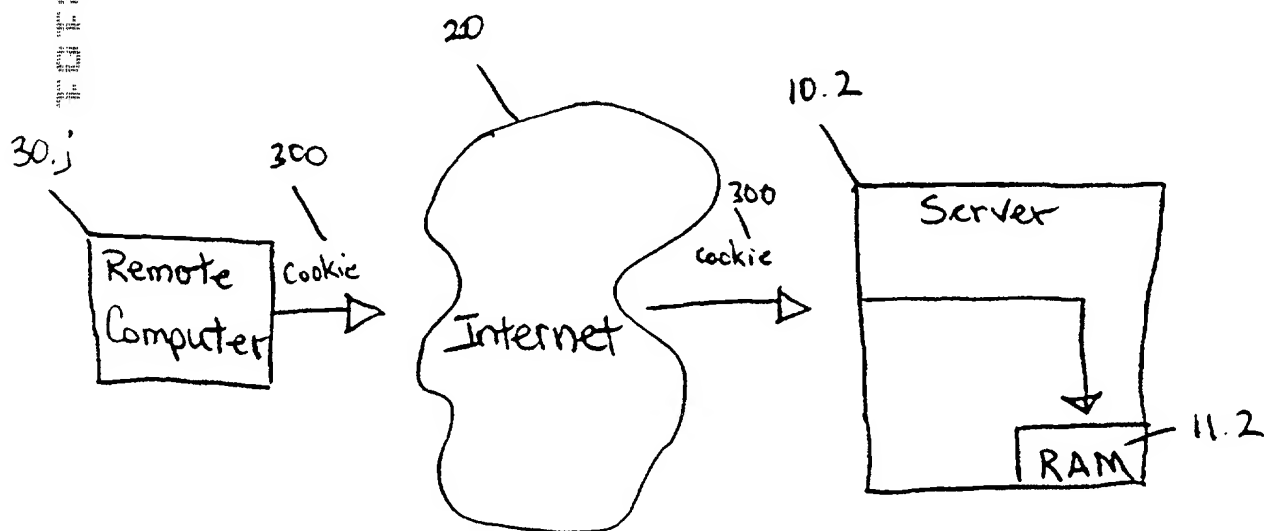


Fig. 11a

~~FIG. 11a~~



~~FIG. 11b~~ FIG. 11b

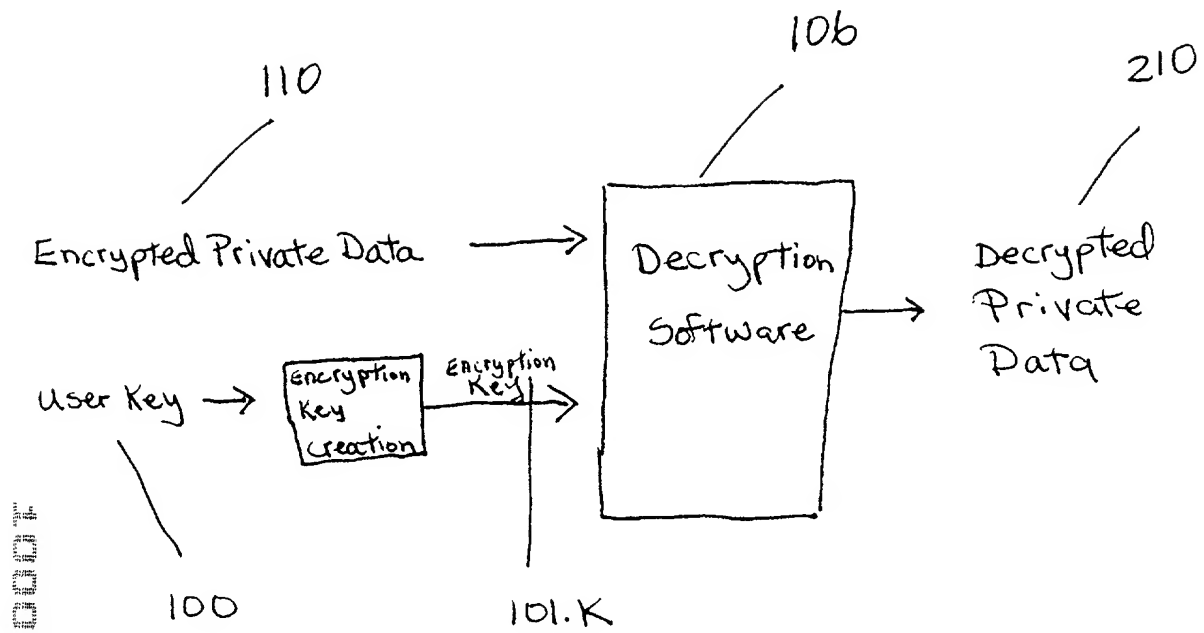


FIG. 12